

V. REMARKS

Before addressing the substantive issues in the Office Action, the inventors would like to emphasize that they have devoted themselves to study and research concerning the relationship between changes in the tread radius due to inflation of tires and uneven wear. As a result thereof, they have discovered that when a circumferential main groove whose width undergoes narrowing as the tire is inflated is imparted with a particular cross-sectional shape, it is possible to effectively suppress uneven wear around or in the vicinity of the main groove. It is respectfully submitted that none of the cited references teaches to impart a particular cross-sectional shape to a main groove whose width undergoes narrowing during inflation or teaches that a tire structure comprising a combination together of a main groove whose width is widened during inflation and a particular cross-sectional shape can bring about a remarkable advantageous result.

The specification is objected to for failing to provide proper antecedent basis for the claims subject matter. The specification is amended to overcome the objection. Withdrawal of the objection is respectfully requested.

Claims 1 and 3-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The claims are amended to obviate the rejection. Withdrawal of the rejection is respectfully requested.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as unpatentable over the admitted prior art (specification page 1, lines 9-25, page 2 lines 1-4 and page 9 lines 2-6) in view of Japan 212 (Japan 8-2212). The rejection is respectfully traversed.

The admitted prior art teaches a pneumatic tire having ribs with grooves that widened during inflation of the tire. The admitted prior art also teaches that both groove walls are inclined and 80 degrees with respect to the tread surface.

Japan 212 teaches a pneumatic radial tire that is used for carrying a heavy load. A plurality of main grooves have two noncontact ribs disposed therein. Each sidewall of the main groove is disposed adjacent to a rib sidewall forming thin grooves therebetween.

Claim 1 is directed to a pneumatic tire provided with a plurality of main grooves extended in a tire circumferential direction on a tread surface. Claim 1 recites that, with regard to a main groove having a groove width widened during inflation among said plurality of main grooves and including a generally U-shaped main groove portion and a narrow groove portion, a groove wall near a shoulder is inclined outward in a tire width direction from the tread surface toward a groove bottom. Claim 1 also recites that a single generally trapezoidally-shaped thin rib protrudes from the groove bottom along the groove wall near the shoulder and has a first slanted wall inclined outward that extends in cross-section parallel with the groove wall near the shoulder to form the narrow groove portion therebetween and a second slanted wall inclined inward in the tire width direction. Claim 1 also recites that a groove wall near the center is inclined outward in the tire width direction from the tread surface toward the groove bottom and forms the generally U-shaped main groove portion with the second slanted wall of the generally trapezoidally-shaped thin rib.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1. Specifically, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests a groove wall near a shoulder is inclined outward in a tire width direction from the tread surface toward a groove bottom, a single generally trapezoidally-shaped thin rib protrudes from the groove bottom along the groove wall near the shoulder that has a first slanted wall inclined outward that extends in cross-section parallel with the groove wall near the shoulder to form the narrow groove portion therebetween and a second slanted wall inclined inward in the tire width direction and a groove wall near the center is inclined outward in the tire width direction from the tread surface toward the groove bottom and forms the generally U-shaped main groove portion with the second slanted wall of the generally trapezoidally-shaped thin rib. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claims 3-5 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reasons claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

Claim 5 is rejected under 35 U.S.C. 103(a) as unpatentable over the admitted prior art in view of Japan 212 and further in view of Kukimoto et al. (U.S. Patent No. 5,445,201). The rejection is respectfully traversed.

Kukimoto teaches a heavy-duty pneumatic tire with a characteristic of preventing uneven wearing of the tread surface.

Claim 5 depends from claim 1 and includes all of the features of claim 1. Thus, it is respectfully submitted that claim 5 is allowable at least for the reason claim 1 is allowable as well as for the features it recites.

Withdrawal of the rejection is respectfully requested.

Claims 1 and 3-5 are rejected under 35 U.S.C. 103(a) as unpatentable over the admitted prior art in view of Kukimoto et al. and further in view of Kabe et al. (U.S. Patent No. 5,345,988) and/or Montagne (U.S. Patent No. 3,763,911). The rejection is respectfully traversed.

Kabe teaches a pneumatic radial tire for heavy loads.

Montagne teaches a tire tread with protruding elements between adjacent ribs as shown in Figure 2. The object of this tire tread with protruding elements is to prevent undesirable furrow wear.

It is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests the features of claim 1. Specifically, it is respectfully submitted that none of the applied art, alone or in combination, teaches or suggests a groove wall near a shoulder is inclined outward in a tire width direction from the tread surface toward a groove bottom, a single generally trapezoidally-shaped thin rib protrudes from the groove bottom along the groove wall near the shoulder that has a first slanted wall inclined outward that extends in cross-section parallel with the groove wall near the shoulder to form the narrow groove portion therebetween and a second slanted wall inclined inward in the tire width direction and a groove wall near the center is inclined outward in the tire width direction from the tread surface toward the groove bottom and forms the generally U-shaped main groove portion with the second slanted wall of the generally trapezoidally-shaped

thin rib. By contrast, the applied art, particularly Kabe, teaches a rib positioned towards a center of the tire and not towards a shoulder of the tire as recited in claim 1. Thus, it is respectfully submitted that one of ordinary skill in the art would not be motivated to combine the features of the applied art because such combination would not result in the claimed invention. As a result, it is respectfully submitted that claim 1 is allowable over the applied art.

Claims 3-5 depend from claim 1 and include all of the features of claim 1. Thus, it is respectfully submitted that the dependent claims are allowable at least for the reasons claim 1 is allowable as well as for the features they recite.

Withdrawal of the rejection is respectfully requested.

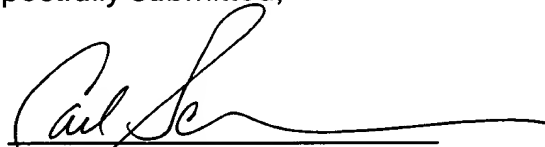
In view of the foregoing, reconsideration of the application and allowance of the pending claims are respectfully requested. Should the Examiner believe anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' representative at the telephone number listed below.

Should additional fees be necessary in connection with the filing of this paper or if a Petition for Extension of Time is required for timely acceptance of the same, the Commissioner is hereby authorized to charge Deposit Account No. 18-0013 for any such fees and Applicant(s) hereby petition for such extension of time.

Respectfully submitted,

Date: December 23, 2003

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Enclosure(s): Petition for Extension of Time (one month)

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